

Abstract

A permanent magnet applies first sliding resistance in-between a holding arm and a guide rail. A carriage is provided with an electromagnet for magnetically applying second sliding resistance in-between the holding arm and the carriage. Although the holding arm persists in moving through inertia when the carriage stops movement, a sliding resistance that is the sum of the first sliding resistance and the second sliding resistance acts on the holding arm, and it is possible to promptly stop. Since the second sliding resistance does not act when the carriage brings the holding member, it is possible to reduce a load. When the carriage starts bringing the holding arm, a difference between the first sliding resistance and the second sliding resistance becomes the sliding resistance, and it is possible to decrease sliding resistance that acts when bringing is started, and reduce occurrence of an impact and a noise.